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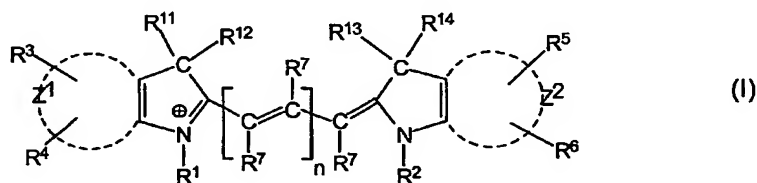
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(54) Title: CYANINE DYE LABELLING REAGENTS



(57) Abstract: Disclosed are cyanine dyes that are useful for labeling and detecting biological and other materials. The dyes are of formula (I) in which groups R<sup>3</sup> and R<sup>4</sup> are attached to the Z<sup>1</sup> ring structure and groups R<sup>5</sup> and R<sup>6</sup> are attached to the Z<sup>2</sup> ring structure, and n = 1, 2 or 3; Z<sup>1</sup> and Z<sup>2</sup> independently represent the carbon atoms necessary to complete a one ring, or two-fused ring aromatic system; at least one of groups R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> is the group -E-F where E is a single bond or a spacer group and F is a target bonding group; one or more of groups R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>14</sup> are independently selected from the group -(CH<sub>2</sub>)<sub>k</sub>-W, where W is sulphonic acid or phosphonic acid and k is an integer from 1 to 10. The dyes may be used in fluorescence labeling applications, where the presence of one and preferably multiple water solubilising groups attached to the 3-position of the indolinium ring reduces dye-dye interactions, and hence dye-dye quenching, particularly where multiple dye molecules are attached to components such as nucleic acids, oligonucleotides, proteins and antibodies.